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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/990,128 | 11/21/2001 | James Y.J. Chung | Mo6824/MD-00-98-KU | 2121 |

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| EXAMINER |
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WYROZEBSKI LEE, KATARZYNA I

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| ART UNIT | PAPER NUMBER |
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1714

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

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|------------------------------|--------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/990,128 | CHUNG ET AL. | |
| | Examiner | Art Unit | |
| | Katarzyna Wyrozebski Lee | 1714 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0903</u> . | 6) <input type="checkbox"/> Other: _____ |

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In view of amendment filed on 11/28/2003 following office action is rendered final. The rejections over the prior art of record are not overcome, and are incorporated herein. As of the date this office action is issued, claims 1-4, 6 and 7 are pending, claim 5 is cancelled. Limitation of claim 5 has been incorporated into claim 1. Claim 1 was further limited to require a flame retardant composition comprising essentially of polycarbonate and hydrotalcites. Limitation of "consisting essentially of" has full support in the original disclosure, by the way of examples.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by URABE (JP 05-239330) in view of evidence in (US 4,611,024).

The prior art of URABE discloses molding composition comprising polycarbonate and hydrotalcite in an amount of 0.001-3 pbw (see Abstract).

According to the specification of URABE, the hydrotalcite has particle size of 0.1-5 microns [0018] and a formula of $Mg_{(1-x)}Al_x(OH)_2CO_{3(x/2)} \cdot mH_2O$ where $x = 0.1-0.4$ and $m = 0-1$. Hydrotalcite utilized by the prior art of URABE are DHT hydrotalcites tradename. DHT-4A

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hydrotalcites have formula $Mg_{(4-5)}Al_2(OH)_{13}CO_3 \cdot 3.5H_2O$. Magnesium atoms (4-5), the number of OH will change to either 12 or 13 in order to chemically balance the equation.

In the light of the above disclosure the prior art of URABE anticipates the requirements of claims rejected above.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 2, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOSU (US 6,313,208).

The prior art of NOSU discloses composition comprising thermoplastic polymer and hydrotalcite (ABSTRACT).

According to claim 1 of NOSU, hydrotalcite is utilized in amount of 0.01-10 pbw of thermoplastic resin and has particle size of 2 microns or less. Preferably particle size is 0.4-1 microns (claim 3). The hydrotalcite of NOSU contains very little iron impurities, less than 0.02 %by weight of hydrotalcite, which limitation is also open to no impurity at all (no lower limit).

Specification of NOSU discloses, that the hydrotalcite can be molded with thermoplastic resins. Col. 7, line 3 of NOSU discloses polycarbonate.

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Use of hydrotalcites in the thermoplastic resin composition used for molding results in composition having good heat resistance.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art to utilize the composition of the prior art of NOSU and thereby arrive at the present invention. Prior art of NOSU teaches hydrotalcites with thermoplastic resin, wherein the resin taught or suggested by the prior art of NOSU is polycarbonate.

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over NOSU (US 6,313,208 as applied to claims 1, 2, 5-7 above, and further in view of either NAKADA (JP 07-062215) or URABE (JP 05-239330).

The discussion of the disclosure of the prior art of NOSU from paragraph 9 of this office action is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of NOSU is showing of hydrotalcites such as DHT hydrotalcites.

The discussion of the disclosure of the prior art of either NAKADA or URABE from paragraphs 4 and 5 of this office action is incorporated here by reference.

DHT type hydrotalcites are utilized in making electronic parts, which requires the composition to have good heat resistance.

In the light of the above disclosure it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the hydrotalcites of either NAKADA or URABE in composition of NOSU and thereby arrive at the present invention. USE of DHT hydrotalcites would still provide composition having good heat resistance.

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In the amendment filed on 11/28/2003 the applicants have argued following issues:

a) The rejection over the prior art of URABE is not proper since anticipation rejection should be based on a single reference.

With respect to the above argument, the examiner would like to point out that the rejection is in view of evidence of the prior art of WOLFE. That means it was simply utilized to provide support for an allegation or otherwise inherent property. The prior art of WOLFE was never intended to be part of the rejection, but only evidence. Since the examiner did not refer to the prior art of WOLFE in the body of the rejection and the examiner simply does not remember why it was left in the form paragraph (as the office action was written back in August) then the prior art of WOLFE probably was left in the form paragraph by mistake.

b) The presence of alkylsulfonate antistatic agents is required in the prior art of URABE, while citing composition of WOLFE reciting polypropylene is not clear.

With respect to the above argument the prior art of URABE utilizes alkyl sulfonates as antistatic agent nothing else. While it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. antistatic agent would in fact be excluded from the claims and that such

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ingredients would materially change the characteristics of the applicant's invention, See MPEP

2111.03. The question is, does the antistatic agent changes flame retardancy of the composition?

c) The rejection over the prior art of NAKADA is not proper since anticipation rejection should be based on a single reference. The prior art of NAKADA teaches phosphorus containing flame retardant compounds.

The applicant's arguments with respect to NAKADA are considered moot due to discontinuation of this prior art against present claims.

d) The prior art of NOSU does not equate to the flame retardance that characterizes the present invention and resistance to thermal deterioration. NOSU does nothing to suggest that polycarbonate a single species among vast number of synthetic resins will exhibit improved flame retardance. NOSU fall short of *prima facie* case and the rejection is untenable.

With respect to the above argument, it is examiner's position that the *prima facie* case has been established in the rejection over the prior art of NOSU. As stated in the rejection the prior art of NOSU teaches use of polycarbonates in col. 7, line 3. The examiner agrees that the list of the polymers listed in the disclosure is rather long, that is why the rejection is a 103 rejection and not 102. The fact is that the examiner while considering prior art cannot limit the disclosure of the prior art to the examples alone but has to consider entire content of it. The prior art of NOSU specifically recites polycarbonate as polymer that can be utilized with hydrotalcites and therefore polycarbonate is taught, disclosed and thereby suggested by the prior art, which further renders it obvious to use.

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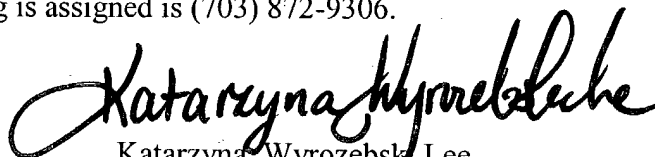
With respect to applicant's argument that the composition of prior art of NOSU does not equate to the composition of the present invention, it is examiner's position that if the prior art of NOSU teaches use of polycarbonates with hydrotalcites and which will be flame retardant, as flame retardance is an intrinsic property of hydrotalcites.

Note

During the prosecution of the application, the examiner treated claim 2 such that the amount 0.1-1.2 % refers to the amount of hydrotalcites. The applicants will have to make that clear before the application becomes in condition for allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



Katarzyna Wyrozebski Lee
Primary Examiner
Art Unit 1714

kiwl
January 28, 2004